

# Improving Compliance with ST Elevation Myocardial Infarction (STEMI) Intervention Guidelines at Strathroy Middlesex General Hospital (SMGH)



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**AIM Statement:** By December 2025, ensure the correct intervention method is used per Canadian guidelines for 80% of patients suffering from STEMI from LHSC's regional hospitals, compared to the current 62% compliance rate. A non-compliance rate of 20% accounts for variables that cannot be controlled.

## PROBLEM DEFINITION

- 1: The administration of STEMI intervention methods differing from CCS practice guidelines (**thrombolysis**) causes an increase in door-to-balloon times and in-hospital complication rates, leading to longer stays and increased costs for LHSC.
- 2: From 2012–2022, 14% of STEMI patients treated at LHSC (**PCI-capable centre**) were thrombolysed. 38% of the thrombolysed patients were at regional hospitals < 60-min drive from LHSC (< 120-min door-to-balloon time). Of this 38%, 30% of patients were from **SMGH (lowest adherence rate)**.

## ROOT CAUSE ANALYSIS

Stakeholder interviews were conducted and the team shadowed Dr. Ward (observed a percutaneous coronary intervention) to develop a process flow map (**Figure 1**) and a fishbone root cause diagram (**Figure 2**).

**Stakeholders Consulted:** Chief of Emergency Medicine at SMGH, Chief of Emergency Medicine at STEGH, LHSC cardiology resident.

**Key Root Causes Identified:** Delays in inter-hospital transfers due to an inefficient STEMI patient transport system and communication system between the referring SMGH physician and the LHSC interventionalist; different interpretations of CCS guidelines for STEMI management.

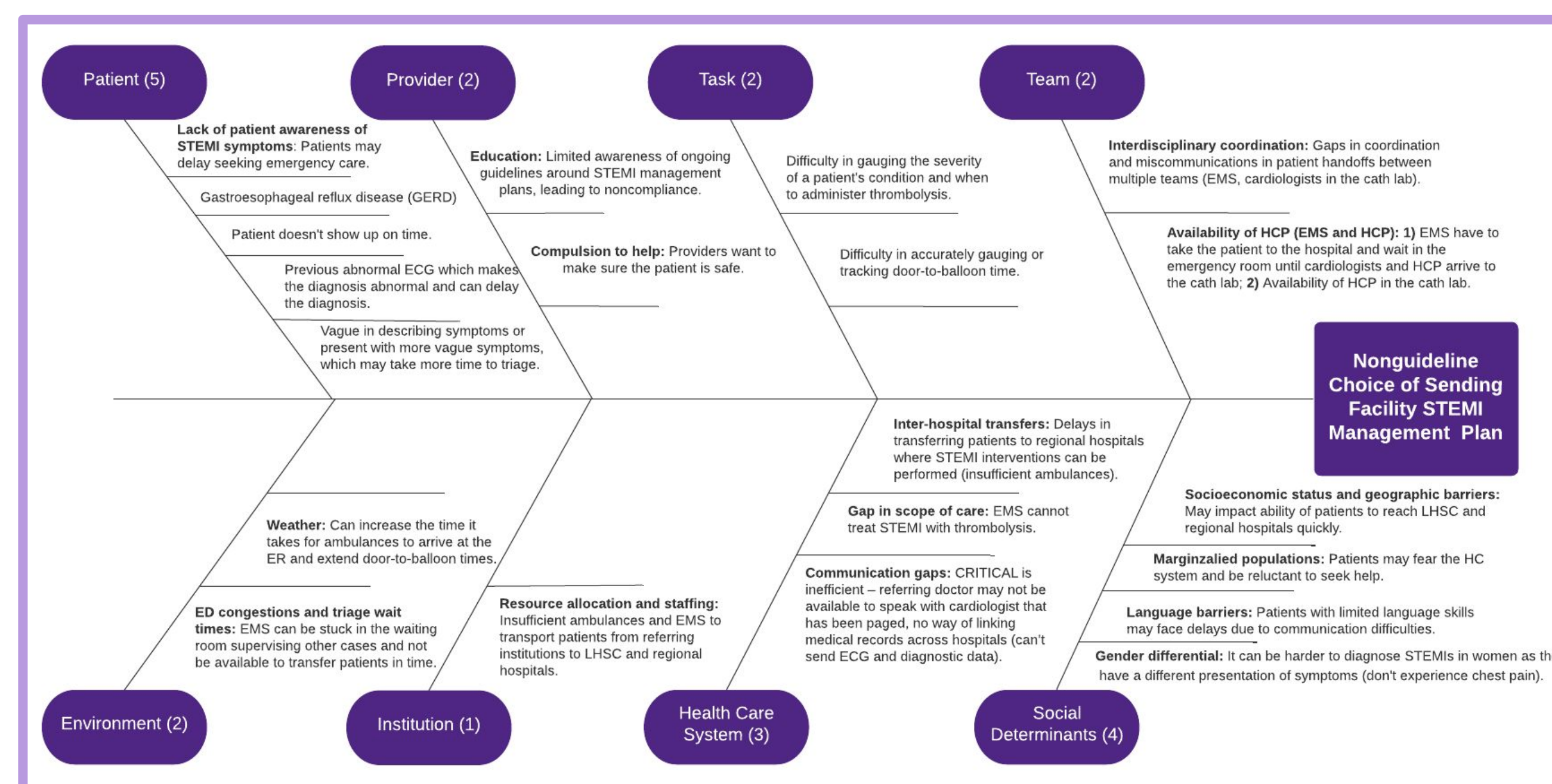


Figure 2: Fishbone Root Cause Diagram

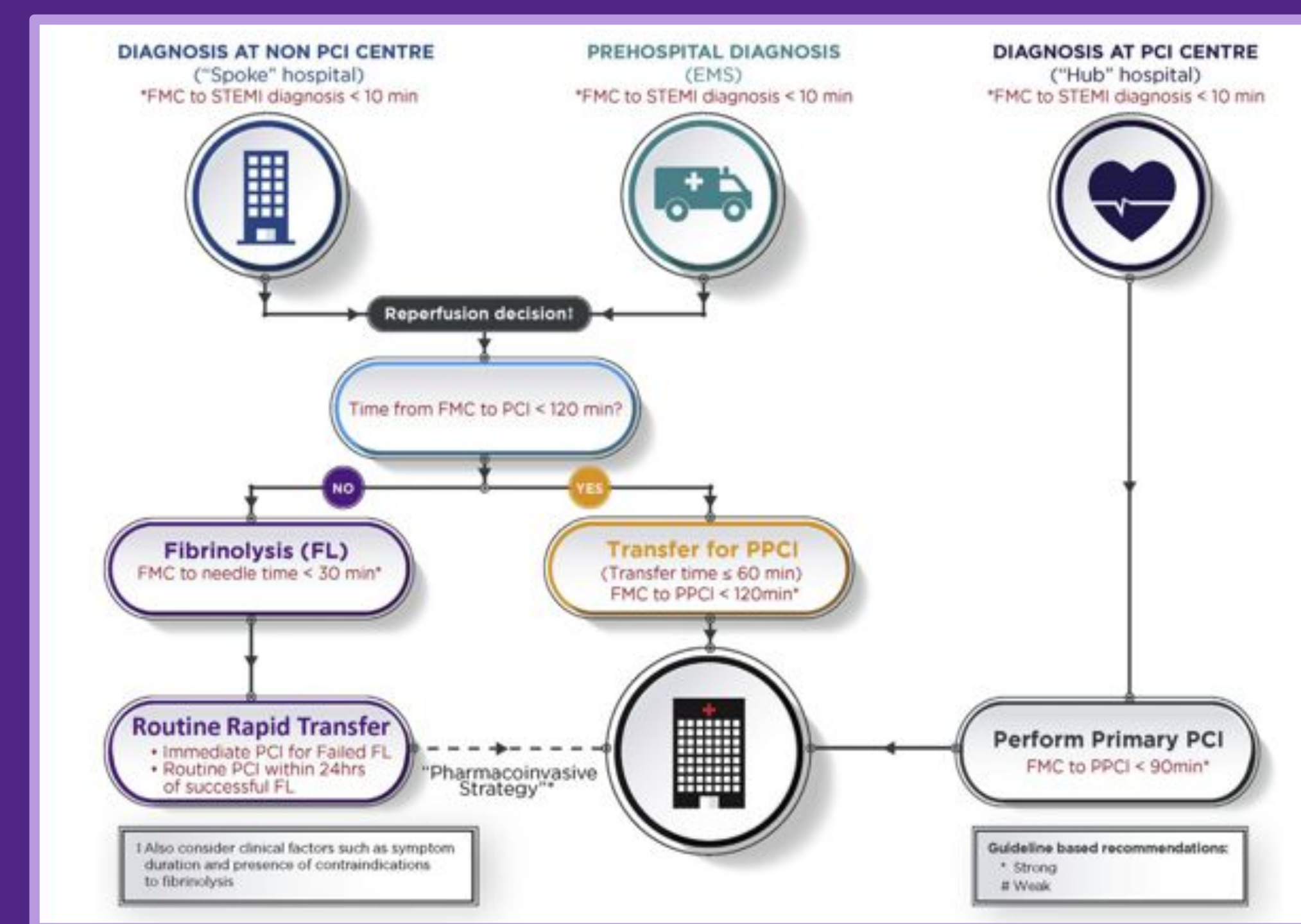


Figure 1: STEMI Patient Process Flow & Intervention Guidelines

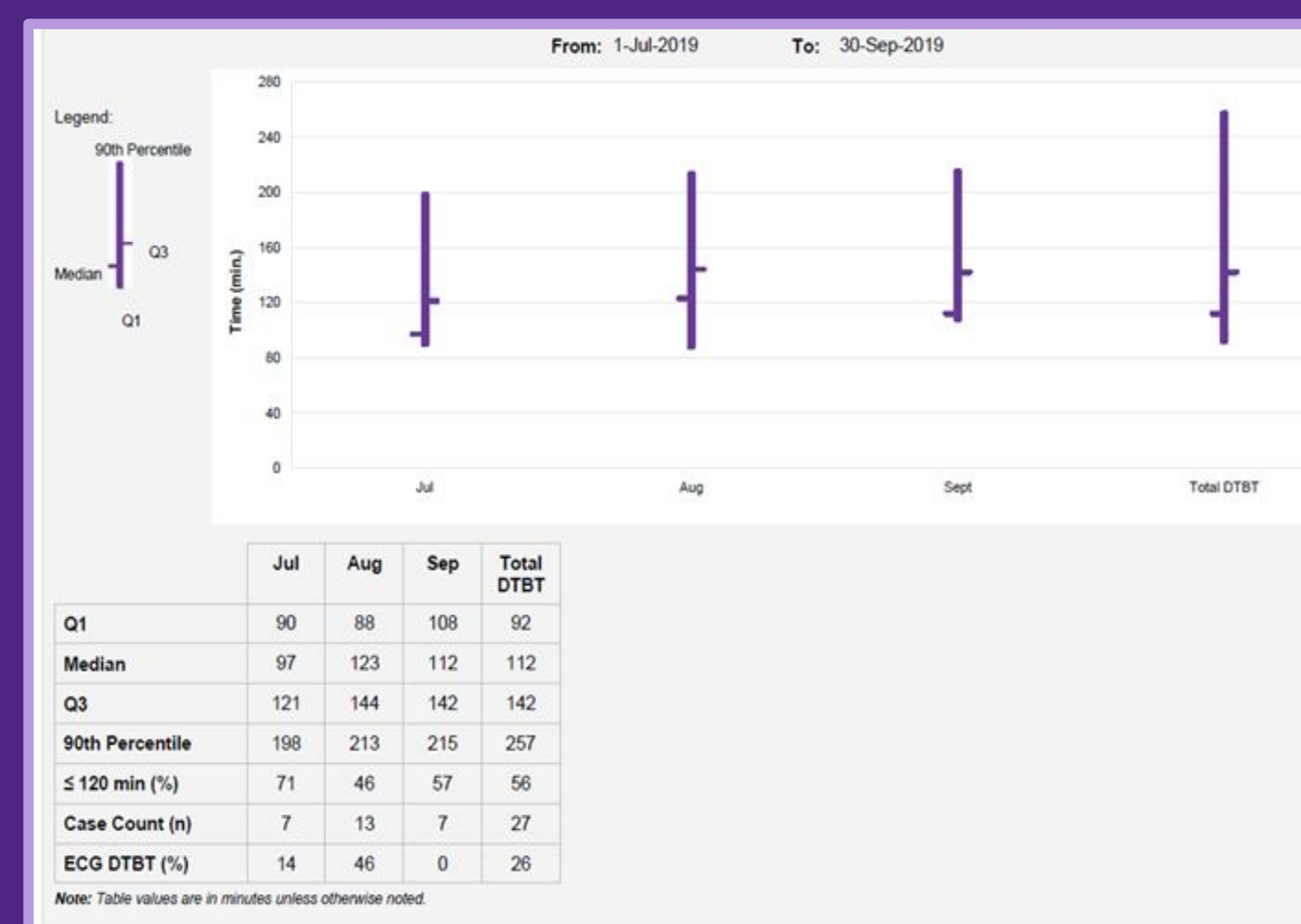


Figure 3: Door-to-Balloon Time, Transfers from Non-PCI Centres

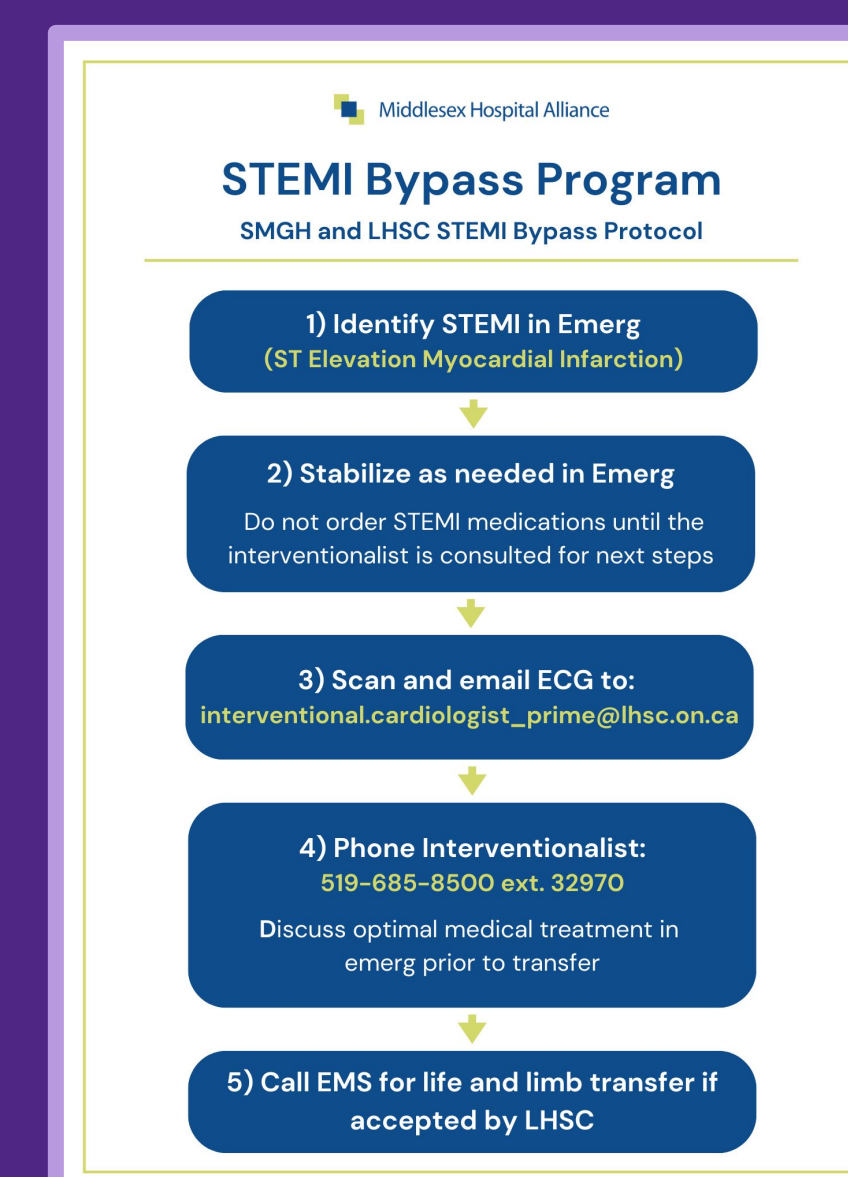


Figure 4: STEMI Bypass Program

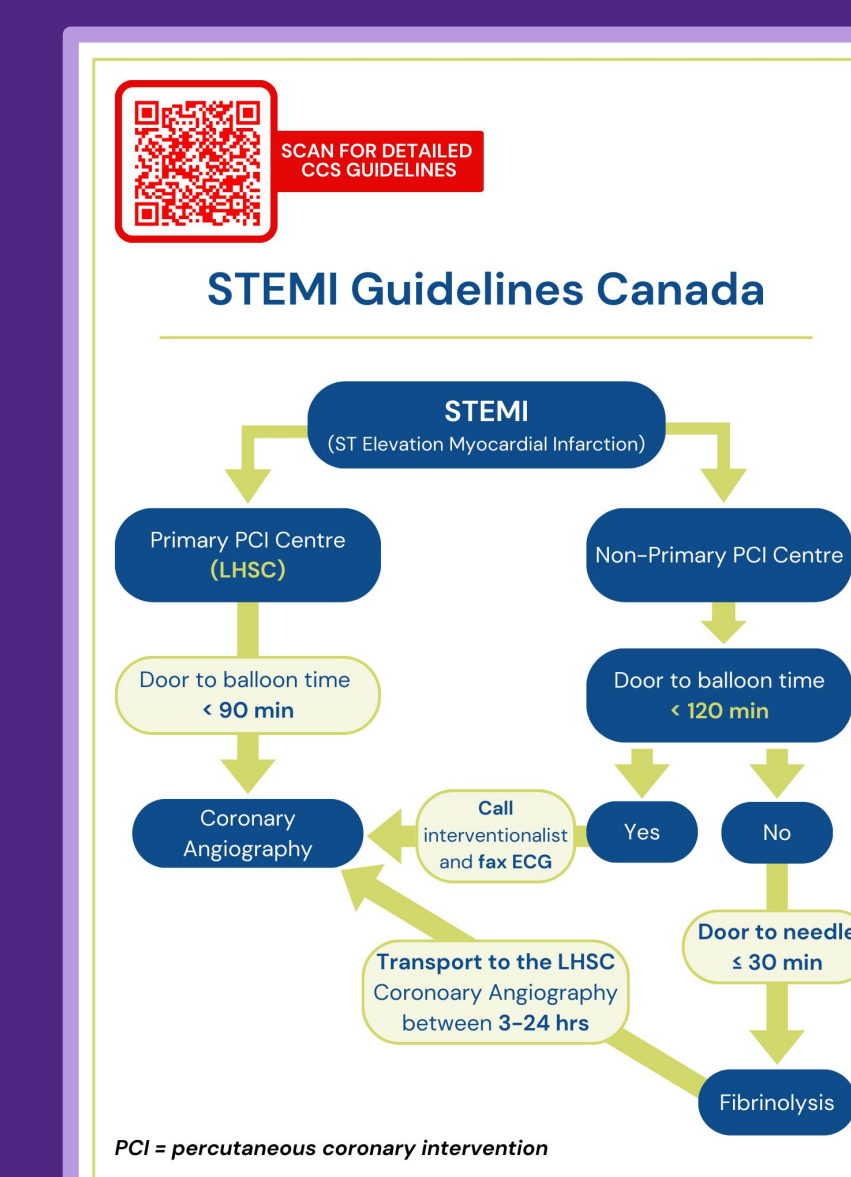


Figure 5: Infographic

## IMPLEMENTATION

- 1: Implementation of a STEMI bypass program for EMS (**Figure 4**) and an informative webinar for SMGH ER physicians on April 17, ahead of the program rollout. The bypass protocol enables EMS to bypass SMGH and transport STEMI patients directly to LHSC, reducing door-to-balloon times, streamlining communication with the interventionalist, and ensuring patients receive appropriate care.

- 2: Dissemination of an educational infographic (**Figure 5**) developed by the team to promote awareness of CCS intervention guidelines among EMS and ER physicians at SMGH, facilitated in collaboration with an SMGH Director for deployment in the ER and ambulances.

Implementation will begin on May 1st.

## MEASUREMENT & RESULTS

**Outcome Measure:** % of cases from SMGH with a door-to-balloon time ≤ 120-minutes treated in adherence to CCS guidelines.

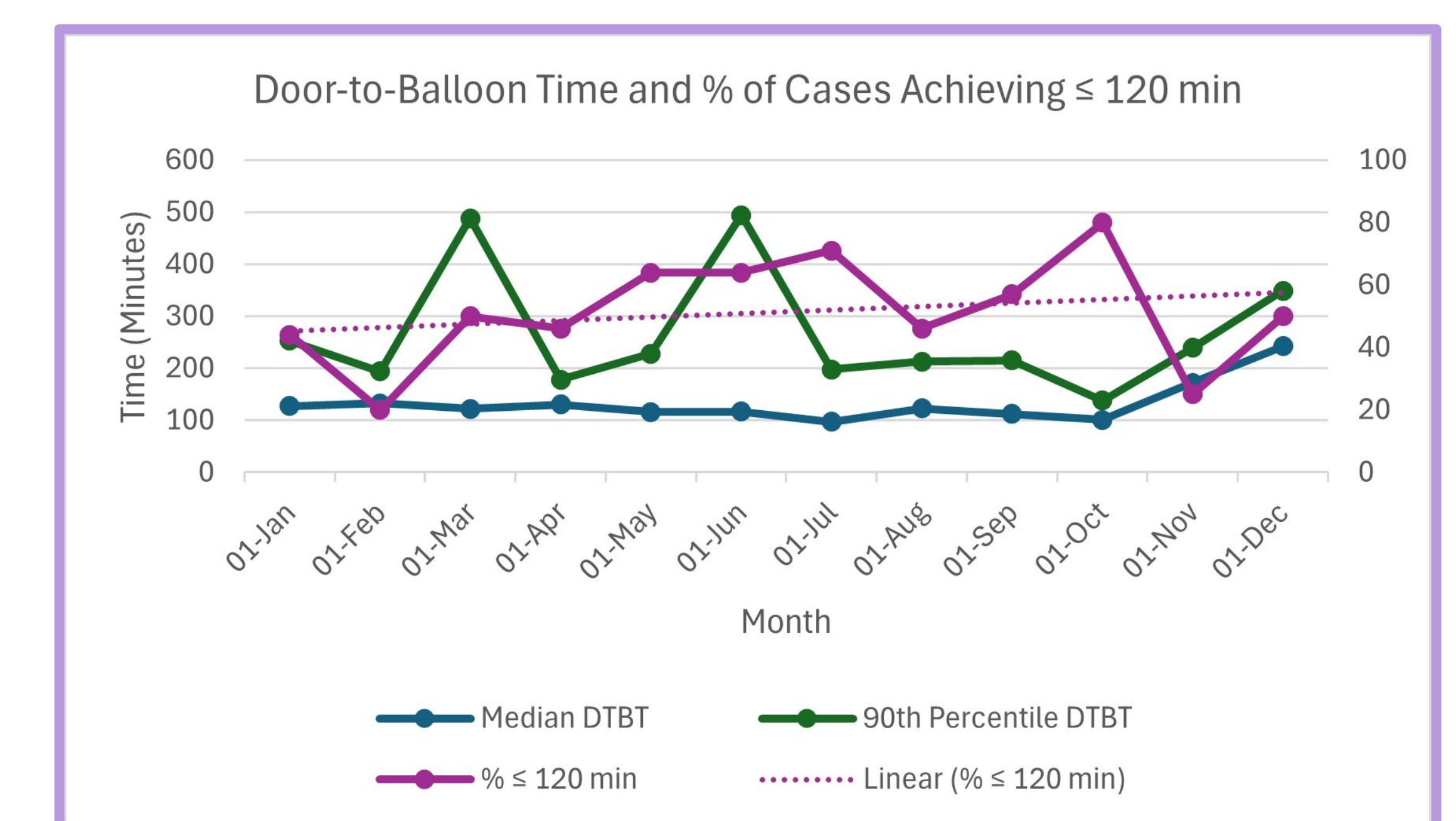


Figure 6: Door-to-Balloon Time and % of Cases Achieving ≤ 120 min

## SUSTAINABILITY

**Process Owners:** Dr. Michael Ward (Interventional Cardiologist at LHSC) and Liz Farrell (Cardiac CorHealth Clinical Manager)

**Documentation:** CorHealth Cardiac data

**Monitoring Plan:** Review SMGH thrombolysis practices and DTB times biannually to identify rate of adherence to CCS guidelines. Provide data feedback to SMGH and engage multidisciplinary team (ER physicians, EMS, nursing team, clerk).